IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

THE MAGNAVOX COMPANY, a Corporation, et al, Plaintiffs, v. BALLY MANUFACTURING CORPORATION, a Corporation, et al, Defendants.	CONSOLIDATED CIVIL ACTIONS NOS. 74 C 1030 74 C 2510

C

DEFENDANTS' SECOND REQUESTS FOR ADMISSION NOS. 92-145

The defendants herein request that the plaintiffs admit or deny, in accordance with the provisions of Rule 36 F.R.C.P., the following statements or opinions of facts and the genuineness of the documents described herein and/or attached hereto.

Attached to this set of Requests for Admission are copies of pages 3 and 26 of "Computers and Automation", Volume 3, No. 7, September 1954.

92. Computers and Automation, Volume 3, No. 7, September 1954, pages 3 and 26, is printed.

93. Computers and Automation, Volume 3, No. 7, September 1954, pages 3 and 26, was published.

94. Computers and Automation, Volume 3, No. 7, September 1954, pages 3 and 26, is a printed publication within the meaning of 35 U.S.C. § 102(a) and/or (b).

95. The documents attached to these Requests for Admission constitute a true copy of pages 3 and 26 of Computers and Automation, Volume 3, No. 7, September 1954.

96. Computers and Automation, Volume 3, No. 7, September 1954, pages 3 and 26, is statutory prior art with respect to United States Patent No. 3,659,284 and its Reissue No. 28,507 under the provisions of 35 U.S.C. § 102(a) and/or (b) and 35 U.S.C. § 103.

97. Computers and Automation, Volume 3, No. 7, September 1954, pages 3 and 26, is statutory prior art with respect to United States Patent No. 3,659,285 and its Reissue No. 28,598 under the provisions of 35 U.S.C. § 102(a) and/or (b) and 35 U.S.C. § 103.

98. The attached pages 3 and 26 from Computers and Automation (hereinafter Reference 1) describe

an apparatus including a cathode ray tube.

99. Defendants' Brown Deposition Exhibit 4 (hereinafter Reference 2) describes

a game playing apparatus including a cathode ray tube.

100. Defendants' Brown Deposition Exhibit 5A (hereinafter Reference 3) describes

an apparatus including a cathode ray tube.

101. Reference 1 describes

an apparatus including means for generating a symbol.

102. Reference 2 describes

an apparatus including means for generating a symbol.

103. Reference 3 describes

an apparatus including means for generating a symbol.

104. Reference 1 describes

an apparatus including means for generating a symbol and means for displaying the generated symbol on the screen of a cathode ray tube.

105. Reference 2 describes

an apparatus including means for generating a symbol and means for displaying the generated symbol on the screen of a cathode ray tube.

106. Reference 3 describes

an apparatus including means for generating a symbol and means for displaying the generated symbol on the screen of a cathode ray tube.

107. Reference 1 describes

an apparatus including means for displaying at least two separate symbols on the screen of a cathode ray tube.

108. Reference 2 describes

an apparatus including means for displaying at least two separate symbols on the screen of a cathode ray tube.

109. Reference 3 describes

an apparatus including means for displaying at least two separate symbols on the screen of a cathode ray tube.

110. Reference 1 describes an apparatus including a symbol generating means and means cooperating with the symbol generating means for displaying one to sixteen different symbols on the screen of a cathode ray tube.

111. Reference 2 describes an apparatus including a symbol generating means and means cooperating with the symbol generating means for displaying one to sixteen different symbols on the screen of a cathode ray tube.

112. Reference 3 describes an apparatus including a symbol generating means and means cooperating with the symbol generating means for displaying one to sixteen different symbols on the screen of a cathode ray tube.

113. Reference 1 describes an apparatus including means for generating and displaying a hit symbol on the screen of a cathode ray tube.

114. Reference 2 describes an apparatus including means for generating and displaying a hit symbol on the screen of a cathode ray tube.

115. Reference 3 describes an apparatus including means for generating and displaying a hit symbol on the screen of a cathode ray tube.

116. Reference 1 describes an apparatus including means for generating and displaying a hitting symbol on the screen of a cathode ray tube.

117. Reference 2 describes an apparatus including means for generating and displaying a hitting symbol on the screen of a cathode ray tube.

118. Reference 3 describes an apparatus including means for generating and displaying a hitting symbol on the screen of a cathode ray tube.

119. Reference 1 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube.

120. Reference 2 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube.

121. Reference 3 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube.

122. Reference 1 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube and means for causing the hit symbol to change direction upon coincidence.

123. Reference 2 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube and means for causing the hit symbol to change direction upon coincidence.

124. Reference 3 describes an apparatus including means for detecting coincidence between a hit symbol and a hitting symbol displayed on the screen of a cathode ray tube and means for causing the hit symbol to change direction upon coincidence.

125. Reference 1 describes an apparatus including means for causing a hit symbol displayed on the screen of a cathode ray tube to move away from a predetermined position on the screen with a reflection angle equal to the incident angle at which the hit symbol approached the predetermined position.

126. Reference 2 describes an apparatus including means for causing a hit symbol displayed on the screen of a cathode ray tube to move away from a predetermined position on the screen with a reflection angle equal to the incident angle at which the hit symbol approached the predetermined position.

127. Reference 3 describes an apparatus including means for causing a hit symbol displayed on the screen of a cathode ray tube to move away from a predetermined position on the screen with a reflection angle equal to the incident angle at which the hit symbol approached the predetermined position.

128. Reference 1 describes an apparatus including means for ascertaining coincidence between a hitting symbol and a hit symbol displayed on the screen of a cathode ray tube and means for imparting a distinct motion to the hit symbol upon coincidence.

129. Reference 2 describes an apparatus including means for ascertaining coincidence between a hitting symbol and a hit symbol displayed on the screen of a cathode ray tube and means for imparting a distinct motion to the hit symbol upon coincidence.

130. Reference 3 describes an apparatus including means for ascertaining coincidence between a hitting symbol and a hit symbol displayed on the screen of a cathode ray tube and means for imparting a distinct motion to the hit symbol upon coincidence.

131. Reference 1 describes an apparatus including means for controlling the movement of a hitting symbol displayed on the screen of a cathode ray tube.

132. Reference 2 describes an apparatus including means for controlling the movement of a hitting symbol displayed on the screen of a cathode ray tube.

133. Reference 3 describes an apparatus including means for controlling the movement of a hitting symbol displayed on the screen of a cathode ray tube.

134. Reference 1 describes an apparatus including means for controlling the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

135. Reference 2 describes an apparatus including means for controlling the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

136. Reference 3 describes an apparatus including means for controlling the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

137. Reference 1 describes an apparatus including a "joy stick" controlled by an individual operator to control signals which in turn control the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

138. Reference 2 describes an apparatus including a "joy stick" controlled by an individual operator to control signals which in turn control the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

139. Reference 3 describes an apparatus including a "joy stick" controlled by an individual operator to control signals which in turn control the horizontal and vertical components of the path of travel of a hitting symbol displayed on the screen of a cathode ray tube.

140. Reference 1 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube from which a hit symbol would move when there was apparent coincidence.

141. Reference 2 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube from which a hit symbol would move when there was apparent coincidence.

142. Reference 3 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube from which a hit symbol would move when there was apparent coincidence.

143. Reference 1 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube and means for causing a hit symbol to move away from the fixed hit boundary with a reflection angle equal to the incident angle at which the hit symbol approached the fixed hit boundary.

144. Reference 2 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube and means for causing a hit symbol to move away from the fixed hit

boundary with a reflection angle equal to the incident angle at which the hit symbol approached the fixed hit boundary.

145. Reference 3 describes an apparatus including means for determining a fixed hit boundary on the screen of a cathode ray tube and means for causing a hit symbol to move away from the fixed hit boundary with a reflection angle equal to the incident angle at which the hit symbol approached the fixed hit boundary.

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CERTIFICATE OF SERVICE

This is to certify that the foregoing DEFENDANTS' SECOND REQUESTS FOR ADMISSION NOS. 92-145 was served on plaintiffs by hand delivering a copy to their attorney, Theodore W. Anderson, Esq., Neuman, Williams, Anderson & Olson, 77 West Washington Street, Chicago, Illinois 60602 this 19th day of July, 1976.

One of Defendants' Attorneys

CYBERNETICS • ROBOTS • AUTOMATIC CONTROL

Vol. 3, No. 7 September, 1954

Publisher: Edmund C. Berkeley and Associates
36 West 11 St., New York 11, N.Y. — ALgonquin 4-7675
815 Washington St., Newtonville 60, Mass. — DEcatur 2-5453 or 3928

Effective September 1, 1954, COMPUTERS AND AUTOMATION is published twelve times a year monthly. Subscription rates: $4.50 for one year, $8.50 for two years, in the United States; $5.00 for one year, $9.50 for two years, in Canada; $5.50 for one year, $10.50 for two years elsewhere. Advertising rates: see page 36. Entered as second class matter at the Post Office, New York, N.Y.

Forum

ILLUSTRATIONS OF COMPUTER POWERS

From the Willow Run Research Center, University of Michigan, Ypsilanti, Mich.:

For those who attended the meeting of the Association for Computing Machinery in Ann Arbor in June, a demonstrated tour was arranged of the computing facilities at Willow Run Research Center. Here there are three separate large computing facilities, representing three distinct fields of digital and analog computation:

1. MIDSAC: an extremely fast large-scale digital computer designed for the special purpose of real-time simulation and for use as a system control element.

2. WRRC Analog Computer installation: one of the larger such installations in the country.

3. MIDAC: a large-scale, general-purpose digital computer, with a more versatile set of operations and a more general range of capabilities than the MIDSAC.

Midsac

The MIDSAC (Michigan Digital Special Automatic Computer) is a high-speed electronic digital computer designed to control the behavior of a number of systems or objects in real time.

To illustrate the capabilities of the computer, an unclassified demonstration was prepared which simulates the game of pocket billiards. The pool table and the 16 balls are displayed on a 13-inch cathode ray tube. To play the game the player orients a cue, which appears on the tube, just as he would a real cue, and presses a button which transfers control to the computer. The computer then causes the cue ball to proceed in the direction indicated by the cue. In addition, the computer continually computes and displays the position and velocity of each ball, including the modifications due to slow-down and to reflection from any cushion it hits, removes it from the table if it enters a pocket, and, in the case of an impact between two balls, computes new velocity components for both balls and then dispatches them on their new paths. When a shot is completed, there is provision for replacing any ball that may have been scratched, for spotting the cue ball, for re-orienting the cue for the next shot, and, if the game is over, for racking all the balls to start the next game.

In order to perform all the functions required for the game the computer must do approximately 14,000 distinct arithmetic operations per second. (Additions require 40 microseconds and multiplications 88 microseconds on MIDSAC).

The Analog Installation

The Willow Run Research Center's Analog Computing Facility ranks among the larger of such installations in the country. It contains a total of 364 operational amplifiers, 18 servo multipliers, 25 servo resolvers, 12 plotting tables, and 18 channels of oscillographic recording equipment, which may be interconnected in larger or smaller combinations, depending upon the problem.

For the demonstration, part of the computer was converted to simulate the dynamic behavior of an army tank riding over a bump. The computer solves the dynamic equations of motion for the tank and usually presents their solution on a six-channel Brush Recorder. However, the computer may be instructed to move an image on the screen of a dual beam oscilloscope, thus giving a direct presentation of the motion of the simulated tank. The motions of all six road wheels, and the motion of the hull in pitch and bounce, are all accurately portrayed.

A second demonstration set-up combines the outputs of two electronic function generators (photoformers) to produce handwriting on a plotting table.

Midac

MIDAC (Michigan Digital Automatic Computer) is a relatively fast general-purpose electronic digital computer. It employs serial type internal logic, operating at a repetition rate of one megacycle. All logical elements in the central computer are built from standard MIDAC packages, similar to those developed by the National Bureau of Standards for use in the DYSEAC. The internal memory of the computer consists of 64 mercury delay lines, capable of storing eight 45-bit words each, giving a total storage capacity of 512 words. A magnetic drum capable of storing 6,144 words is available as an auxiliary memory. High-speed Ferranti photo-electric readers serve as input.

Since MIDAC is a general-purpose computer several different problems may be presented to illustrate its versatility. MIDAC will "fade" the house in a simulated game of "craps". Rolling the dice and remembering its point, it continues to roll and print the dice until it determines the winner.

(continued on page 28)